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ABSTRACT

This experimental curriculum guide for bicycle safety begins with a chapter listing vehicle and traffic laws pertaining to bicycling. Chapter 2 of the guide is organized by grade level. Appropriate lesson plans for bicycle safety are presented with aims, concepts activities and behavioral objectives. A 24-item list of activities summarizes these lessons. Chapter 3 is a resource guide covering the following topics: (1) history of the bicycle; (2) selecting and fitting of the bicycle; (3) care and maintenance of the bicycle; (4) rules of the road; (5) traffic control devices; (6) riding the bicycle; (7) classroom testing and quiz materials; (8) practical field testing; (9) bicycle games and contests; and (10) a list of sources of information and materials. (VM)

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Preface: A Note For Teachers

Children learn readily when the subject area is one that is of personal interest to them, and bicycling is a good example of that. Your students will need little motivation to discuss their interest in bicycling. It is up to us as teachers, however, to channel that interest such that the most constructive and beneficial learnings are provided for the child. The Purpose of this manual is to provide teachers a grade by grade sequence of appropriate lesson material for students.

Although the act of riding a bicycle requires a combination of physical skills, the safe and sensible use of one's bicycle demands a fair amount of in-class knowledge. For that reason, learnings in this manual have been provided in both skill and knowledge areas, outlined grade by grade. In-class knowledge performance objectives as well as skill or field criteria are given so that teachers can plan activities to meet those objectives and then easily evaluate children's progress.

Safe bicycling for your students begins in the classroom and it is our hope that this guide will assist you in planning lessons and units that will prepare them to be safe bicyclists and pedestrians now, and, of course, more aware motorists in the future.

Teachers are urged to use all sections in their lesson planning. The Resource Section will be most helpful in detailing activities, sources of information and other helpful materials. The Grade Guide section will help focus in on the aims and objectives of the materials presented at each grade level in a sequential program of learnings. Teachers are urged to use all resources at their disposal.

INTRODUCTION

THE CHILDREN OF OUR COUNTRY ARE OUR MOST IMPORTANT AND VALUABLE RESOURCE. THEY ARE VITAL, ENERGETIC PEOPLE OF THE FUTURE. IT IS OUR TASK TO PROVIDE THEM WITH THE SKILLS NECESSARY TO SAFEGUARD THEM IN THE PRESENT SO THEY MAY ENJOY THAT FUTURE. TEACHING SAFETY IS A BASIC TASK ALL EDUCATORS MUST ADDRESS. SAFETY EDUCATION IS A PART OF THE CURRICULUM SET BY THE NEW YORK STATE EDUCATION DEPARTMENT.

THE BICYCLE, A MACHINE WHICH HAS BEEN WITH US FOR OVER 150 YEARS, HAS MADE A TREMENDOUS IMPACT ON OUR CIVILIZATION IN THE LAST 10 YEARS.

TODAY IT IS ESTIMATED THERE ARE OVER 60 MILLION BICYCLE RIDERS IN THE UNITED STATES. THE EFFECT OF THIS LARGE NUMBER OF RIDERS AND BICYCLES HAS CAUSED MUCH CONCERN TO LAW AND SAFETY AGENCIES. BICYCLES ARE RANKED NUMBER ONE ON THE CONSUMER PRODUCT SAFETY COMMISSION'S CONSUMER PRODUCT HAZARD INDEX. THE CONSUMER PRODUCT SAFETY COMMISSION ESTIMATES THAT THERE WERE APPROXIMATELY 460,000 BICYCLE-RELATED INJURIES IN HOSPITAL EMERGENCY ROOMS IN 1975. CHILDREN 14 YEARS OF AGE AND UNDER SUFFERED 73% OF THESE INJURIES. THE NATIONAL SAFETY COUNCIL ESTIMATES THAT BICYCLE-MOTOR VEHICLE ACCIDENTS ANNUALLY CLAIM THE LIVES OF 1,000 BICYCLISTS. IN NEW YORK CITY DURING 1976, 14 CHILDREN WERE KILLED AND APPROXIMATELY 6,000 WERE INJURED AS A RESULT OF BICYCLE-MOTOR VEHICLE ACCIDENTS, WHILE COUNTLESS OTHER INJURIES TO CHILDREN WERE UNREPORTED. THESE FIGURES IMPRESS US WITH THE IMPORTANCE OF INCLUDING BICYCLE SAFETY TEACHING IN THE CURRICULA OF OUR SCHOOLS.

THE NEW YORK STATE LEGISLATURE HAS APPROVED AN AMENDMENT TO THE NEW YORK STATE EDUCATION LAW WHICH INCLUDES BICYCLE SAFETY AS A DISTINCT TOPIC IN SCHOOL HIGHWAY SAFETY PROGRAMS. NEW YORK STATE EDUCATION LAW SECTION 106 AND COMMISSIONER OF EDUCATION'S REGULATIONS SECTION 107.1 RELATE THE SPECIFIC MANDATES ON TEACHING BICYCLE SAFETY.

Part 107
Safety Education
(Statutory Authority: Education Law, 297,806)

Sec.
107.1 Safety Education

Section 107.1 Safety Education. Instruction in safety education, including highway and traffic safety, and bicycle safety, shall be given to all pupils in both elementary and secondary grades; such instruction shall be made a definite part of the school program either as a special subject or in connection with instruction in other subjects; as comprehensive plans for safety education shall be organized by local school authorities including highway and traffic safety, bicycle safety, home safety, recreational safety, industrial and occupational safety, and school safety, to insure the development of safety habits in all the varied activities of everyday life; and the instruction in safety education shall be given for not less than 30 periods, or the equivalent thereof, in each year in the elementary schools (grades 1 to 3), for not less than 30 periods, or the equivalent thereof, in each year in the junior high school (grades 7 to 9), and not for less than 15 periods, or the equivalent thereof, in each year of the senior high school (grades 10 to 12).

Historical Note
Sec. Amd. Filed Sept. 27, 1973 eff. Sept. 1, 1973

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CHAPTER I

VEHICLE AND TRAFFIC LAWS

CHAPTER 1

Vehicle and Traffic Laws

NOTE: Although bicycles are not considered vehicles in the strict legal sense, in the main, bicyclists must follow standard traffic rules and regulations.

The Machine

Title I - Article I - Section 102

Definition: A bicycle is every device propelled by the feet acting upon pedals, having wheels any two of which are more than 20 inches in diameter

Title I - Article I - Section 159

Definition: A bicycle is not a vehicle because it is moved by human power.

Title VII - Article 34 - Section 1236

LAMPS AND OTHER EQUIPMENT ON BICYCLES. (a) Every bicycle when in use during the period from one-half hour after sunset to one-half hour before sunrise shall be equipped with a lamp on the front which shall emit a white light visible from a distance of at least 500 feet to the front and with a red reflector, at least 3 inches in diameter, on the rear and of a type approved by the commissioner which shall be visible from all distances from 50 feet to 300 feet to the rear, when directly in front of lawful upper beams of headlamps on a motor vehicle. A lamp emitting a red light visible to the rear may be used in addition to the red reflector.

Title VII - Article 34 - Section 36 - Part 59

REFLECTIVE DEVICES OR MATERIALS FOR BICYCLES

Section 59.1 Introduction. No bicycle manufactured or assembled on or after January 1, 1974, and designed as a new model, shall be sold in this State unless such bicycle conforms to these regulations. On or after January 1, 1975, no bicycle shall be sold in this State by a person regularly engaged in the business of selling bicycles at retail unless such bicycle conforms to these regulations. For the

PURPOSES OF THESE REGULATIONS, A BICYCLE IS EVERY DEVICE PROPELLED BY THE FEET ACTING UPON PEDALS, HAVING WHEELS ANY TWO OF WHICH ARE MORE THAN 20 INCHES IN DIAMETER.

SECTION 59.2 MANDATORY REFLECTIVE DEVICES OR MATERIALS (A) FRONT. EACH BICYCLE MUST BE EQUIPPED WITH A WHITE FRONT-FACING REFLECTIVE DEVICE OR MATERIAL THAT WILL NOT BE OBSTRUCTED AT ANY TIME FROM THE VIEW OF A DRIVER OF A VEHICLE APPROACHING FROM THE FRONT. THIS DEVICE OR MATERIAL MUST BE AT LEAST 3 SQUARE INCHES IN EFFECTIVE PROJECTED REFLECTIVE SURFACE AREA AND BE CAPABLE OF HAVING A CIRCLE OF 1-INCH DIAMETER INSCRIBED WITHIN THE EFFECTIVE PROJECTED REFLECTIVE SURFACE AREA.

(B) REAR. EACH BICYCLE MUST BE EQUIPPED WITH A RED REAR-FACING LIGHT VISIBLE FOR 500 FEET OR A RED REAR-FACING REFLECTIVE DEVICE OR MATERIAL THAT WILL NOT BE OBSTRUCTED AT ANY TIME FROM THE VIEW OF A DRIVER OF A VEHICLE APPROACHING FROM THE REAR. THIS DEVICE OR MATERIAL MUST BE AT LEAST 3 INCHES IN DIAMETER.

(C) PEDAL. EACH BICYCLE SHALL BE EQUIPPED WITH WHITE OR AMBER REFLECTIVE DEVICES OR MATERIALS ON BOTH THE FRONT AND REAR SURFACES OF ALL PEDALS. EACH PEDAL REFLECTOR SHALL BE RECESSED BELOW THE PLANE OF THE PEDAL OR REFLECTOR HOUSING. EACH PEDAL REFLECTOR SHALL BE AT LEAST 0.90 SQUARE INCHES IN PROJECTED EFFECTIVE REFLEX AREA.

(D) SIDE - PRIOR TO JANUARY 1, 1975, EACH BICYCLE MUST BE EQUIPPED WITH EITHER:

(1) SIDE-FACING REFLECTIVE DEVICES OR MATERIALS ON EACH SIDE PROVIDED THAT SUCH DEVICES HAVE THE FOLLOWING PATTERN:

(I) WHITE OR AMBER LOCATED TO THE FRONT OF THE FOREMOST RIDER AND

(II) WHITE OR RED LOCATED TO THE REAR OF THE REARMOST RIDER OR,

(2) TIRE OR RIMS EQUIPPED WITH REFLECTIVE MATERIAL AS PROVIDED IN SUBDIVISION (C) OF THIS SECTION.

(E) SIDE - ON AND AFTER JANUARY 1, 1975, EACH BICYCLE MUST BE

EQUIPPED AS FOLLOWS: EACH BICYCLE EQUIPPED WITH CALIPER BRAKES MUST HAVE A CONTINUOUS, CIRCULAR, WHITE OR SILVER RETRO-REFLECTIVE MATERIAL ON EACH SIDE OF ALL TIRES. SUCH RETRO-REFLECTIVE MATERIAL MUST BE AT LEAST THREE-SIXTEENTHS OF AN INCH WIDE.

BICYCLES NOT EQUIPPED WITH CALIPER BRAKES MUST HAVE A CONTINUOUS, CIRCULAR, WHITE OR SILVER RETRO-REFLECTIVE MATERIAL AT LEAST THREE-SIXTEENTHS OF AN INCH WIDE ON EITHER THE TIRES OR THE WHEEL RIMS.

THE TIRES OR RIMS MUST BE VISIBLE AT NIGHT WHEN VIEWED BY A VEHICLE DRIVER UNDER THE LAWFUL LOWER BEAMS OF VEHICLE HEADLIGHTS AT 600 FEET.

THE USER OF THE BICYCLE (A BICYCLIST)

TITLE I - ARTICLE I - SECTION 130

DEFINITION: A BICYCLIST IS NOT A PEDESTRIAN BECAUSE HE IS NOT ON FOOT.

TITLE VII - ARTICLE 34 - SECTION 1230

EFFECT OF REGULATIONS: (A) THE PARENT OF ANY CHILD AND THE GUARDIAN OF ANY WARD SHALL NOT AUTHORIZE OR KNOWINGLY PERMIT ANY SUCH CHILD OR WARD TO VIOLATE ANY PROVISION OF THIS ARTICLE.

(B) THESE REGULATIONS APPLICABLE TO BICYCLES SHALL APPLY WHENEVER A BICYCLE IS OPERATED UPON ANY HIGHWAY, UPON PRIVATE ROADS OPEN TO PUBLIC MOTOR VEHICLE TRAFFIC AND UPON ANY PATH SET ASIDE FOR THE EXCLUSIVE USE OF BICYLCES.

TITLE VII - ARTICLE 34 - SECTION 1231

TRAFFIC LAWS APPLY TO PERSONS RIDING BICYCLES. EVERY PERSON RIDING A BICYCLE ON A ROADWAY SHALL BE GRANTED ALL THE RIGHTS AND SHALL BE SUBJECT TO ALL THE DUTIES APPLICABLE TO THE DRIVER OF A VEHICLE BY THIS TITLE, EXCEPT AS TO THOSE PROVISIONS OF THIS TITLE WHICH BY THE NATURE CAN HAVE NO APPLICATION.

TITLE VII - ARTICLE 34 - SECTION 1232

RIDING ON BICYCLES: (A) A PERSON PROPELLING A BICYCLE SHALL NOT RIDE OTHER THAN UPON OR ASTRIDE A PERMANENT AND REGULAR SEAT ATTACHED THERETO, NOR SHALL HE RIDE WITH HIS FEET REMOVED FROM THE PEDALS.

(B) No bicycle shall be used to carry more persons at one time than the number for which it is designed and equipped.

Title VII - Article 34 - Section 1233

Clinging to vehicles: 1. No person riding upon any bicycle, coaster, rollerskates, sled or toy vehicle shall attach the same or himself to any vehicle being operated upon the roadway.

2. No person shall ride on or attach himself to the outside of any vehicle being operated on a roadway without the permission of the operator thereof.

3. No vehicle operator shall knowingly permit any person to attach any device or himself to such operator's vehicle in violation of subdivision (1) of this section.

Title VII - Article 34 - Section 1234

Riding on roadways and bicycle paths: (A) Every person operating a bicycle upon a roadway shall ride as near to the right side of the roadway as practicable, exercising due care when passing a vehicle or bicycle standing or proceeding in the same direction.

(B) Persons riding on a roadway shall not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles.

(C) Whenever a usable path for bicycles has been provided adjacent to a roadway, bicycle riders shall use such paths and shall not use the roadway.

Title VII - Article 34 - Section 1235

Carry articles. No person operating a bicycle shall carry any package, bundle, or article which prevents the driver from keeping at least one hand on the handlebars.

The responsibility for the implementation of these new regulations rest with the local school boards. The actual classroom implementation rests with the clssroom teacher. This manual is designed to provide the classroom teacher with a guide and background materials for the development of lessons in bicycle safety.

CHAPTER II

GRADE GUIDE K-6

KINDERGARTEN

AIMS-

1. TO HAVE CHILDREN LEARN THAT PEOPLE USE DIFFERENT MEANS OF TRANSPORTATION FOR DIFFERENT PURPOSES.

2. TO HAVE CHILDREN LEARN THAT THERE ARE SAFETY RULES TO PROTECT DRIVERS AND PEDESTRIANS.

3. TO HAVE CHILDREN LEARN BASIC PEDESTRIAN SAFETY RULES.

4. TO HAVE PUPILS LEARN ABOUT THE FLOW OF TRAFFIC IN THE STREETS.

CONCEPTS-

1. SAFETY RULES HELP AND PROTECT US.

2. STREETS ARE CROSSED ONLY AT THE CORNERS.

3. LOOK IN ALL DIRECTIONS BEFORE CROSSING THE STREET.

4. OBEY POLICE OFFICERS, CROSSING GUARDS AND TRAFFIC LIGHTS.

5. CARS, TRUCKS AND BICYCLES TRAVEL FAST AND NEED ROOM TO STOP.

ACTIVITIES-

1. TAKE CLASS ON WALK THROUGH NEIGHBORHOOD TO OBSERVE TRAFFIC CONDITIONS IN AREA.

2. HAVE CHILDREN PLAN A SAFE ROUTE TO SCHOOL.

3. INVITE POLICE OFFICER OR CROSSING GUARD TO SPEAK TO CLASS.

4. SHOW FILM TO ILLUSTRATE TRAFFIC AND PEDESTRIAN SAFETY.

5. HAVE CHILDREN DRAW VARIOUS TRAFFIC CONTROL DEVICES THEY HAVE SEEN.

6. HAVE CLASS ROLE-PLAY TRAFFIC SITUATIONS WITH CHILDREN ACTING AS

CARS, TRUCKS, ETC.

7. HAVE CLASS BUILD A MODEL OF A TRAFFIC LIGHT AND ILLUSTRATE AND UNDERSTAND THE MEANING OF THE COLORS RED, AMBER, AND GREEN.

BEHAVIORAL OBJECTIVES -

1. THE CHILD WILL IDENTIFY THE COLORS OF THE TRAFFIC LIGHT.

2. THE CHILD WILL DEMONSTRATE THE PROPER WAY TO CROSS THE STREET.

3. THE CHILD WILL EXPLAIN THE PROPER TIME AND PLACE TO CROSS A STREET.

4. THE CHILD WILL DEFINE THE DANGERS IN THE STREET.

5. THE CHILD WILL PLAN AND DEMONSTRATE A SAFE TRIP FROM HOME TO SCHOOL.

GRADE ONE

AIMS-

1. TO HAVE CHILDREN APPRECIATE THE DANGERS IN THE STREET.

2. TO HAVE CHILDREN LEARN BASIC RULES OF THE ROAD.

3. TO HAVE CHILDREN LEARN THE USE AND MEANING OF TRAFFIC SIGNS.

4. TO HAVE CHILDREN LEARN THERE ARE DIFFERENT RULES FOR RIDERS, DRIVERS AND WALKERS.

5. REVIEW AIMS FOR KINDERGARTEN.

CONCEPTS-

1. REVIEW CONCEPTS FOR KINDERGARTEN.

2. TRAFFIC CONTROL DEVICES ARE DESIGNED TO PROTECT US.

3. BICYCLES ARE VEHICLES AND MUST FOLLOW SAFETY RULES AND TRAFFIC LAWS.

4. BICYCLES ARE EQUIPPED WITH SAFETY DEVICES.

5. BICYCLES MUST BE RIDDEN SAFELY.

ACTIVITIES-

1. TAKE CLASS ON WALK TO IDENTIFY SAFE AREAS IN NEIGHBORHOOD FOR BICYCLE RIDING.

2. HAVE CHILDREN EXPLAIN THEIR CHOICES AND DISCUSS THEM WITH THE CLASS.

3. HAVE CHILDREN CONSTRUCT DIFFERENT TRAFFIC SIGNS AND EXPLAIN THEIR MEANINGS.

4. BY USING EITHER PICTURES OR A BICYCLE, HAVE CHILDREN START TO LEARN THE PARTS OF A BICYCLE AND THEIR FUNCTIONS.

A. Wheels
B. Spokes
C. Handlebars
D. Frame
E. Seat
F. Chain
G. Bell or horn
H. Relectors

5. Show film on bicylce safety.

Behavioral Objectives-

1. Children will identify and explain the meaning of the following traffic control devices:

A. Traffic light
B. Stop sign
C. Crosswalk lines
D. Walk, Don't Walk sidewalk lights
E. Colors Red, Amber and Green

2. Children will name and explain dangers in the street.

3. Children will name and explain functions of parts of the bicycle.

4. Children will explain basic rules of the road for pedestrians and bicyclists.

5. Children will locate safe areas near their homes in which to ride bicycles.

6. Children will discuss the safe uses of a bicycle.

GRADE TWO

AIMS-

1A. TO SHOW THAT BICYCLES COME IN MANY DIFFERENT SIZES AND DESIGNS, BUT ALL MUST BE EQUIPPED SAFELY.

1B. TO TEACH ALL PARTS OF THE BICYCLE.

2. TO INTRODUCE THE ART OF BICYCLE RIDING AS A PHYSICAL EDUCATION ACTIVITY.

3. TO TEACH SAFE BICYCLE RIDING HABITS.

4. TO TEACH THE DESIGN AND MEANING OF ALL TRAFFIC DEVICES.

5. REVIEW AIMS FOR ALL PREVIOUS GRADES.

CONCEPTS-

1. BICYCLES ARE FUN BUT THEY ARE USED FOR DIFFERENT PURPOSES SUCH AS TRANSPORTATION, WORK, RECREATION.

2. WE MUST BE ABLE TO IDENTIFY TRAFFIC CONTROL DEVICES BY THEIR SHAPE AND COLOR.

3. WE MUST KNOW THE PARTS OF A BICYCLE AND THEIR FUNCTIONS.

4. WE MUST LEARN HOW TO RIDE A BICYCLE.

ACTIVITIES-

1. USE FLASHCARDS OR CLASS BUILT MODELS TO HAVE CHILDREN LEARN TRAFFIC CONTROL DEVICES BY SIZE, SHAPE AND COLOR.

2. USE WRITTEN TESTS TO ASSESS STUDENT KNOWLEDGE. (SEE TESTING SECTION).

3. HAVE POLICE OFFICER OR SCHOOL CROSSING GUARD VISIT CLASS AND DISCUSS TRAFFIC SAFETY.

4. USE NAMES OF PARTS OF BICYCLE IN SPELLING AND WORD GAMES.

5. HAVE PUPILS LABEL DIAGRAMS OF BICYCLE WITH NAMES OF PARTS.

6. INCLUDE SAFETY QUESTIONS IN OTHER CURRICULUM AREAS.

7. SHOW FILM ON BICYCLE OR TRAFFIC SAFETY.

8. HAVE CLASS LESSON OR BICYCLE RIDING IN SCHOOL YARD OR OTHER SUITABLE LOCATION.

9. TAKE CLASS WALK AND HAVE STUDENTS DEPICT THEIR EXPERIENCES IN WRITTEN OR PICTURE FORM. PUT THE EMPHASIS ON SAFETY IN THESE EXERCISES.

BEHAVIORAL OBJECTIVES

1. STUDENTS WILL INDENTIFY AND EXPLAIN ALL TRAFFIC CONTROL DEVICES.

2. STUDENTS WILL EXPLAIN AND DEMONSTRATE THE PROPER WAY TO CROSS THE STREET.

3. STUDENTS WILL STATE SAFETY RULES CONCERNING PLAYING IN THE STREET.

4. STUDENTS WILL CORRECTLY IDENTIFY ALL PARTS OF THE BICYCLE AND EXPLAIN THE FUNCTION OF THE PARTS.

5. STUDENTS WILL DEMONSTRATE BEGINNING SKILL IN RIDING A BICYCLE.

GRADE THREE

AIMS-

1. TO TEACH CHILDREN TO RIDE IN SAFE PLACES.

2. TO TEACH CHILDREN THE RIGHT-OF-WAY RULES.

3. TO TEACH CHILDREN THE PROPER USE OF HAND SIGNALS AND TURN SIGNALS.

4. TO TEACH CHILDREN HOW TO SELECT A BICYCLE WHICH "FITS" THEM.

5. TO TEACH CHILDREN HOW TO RIDE A BICYCLE SAFELY.

6. TO REVIEW ALL AIMS FOR PREVIOUS GRADES.

CONCEPTS-

1. PRACTICE IS REQUIRED TO LEARN HOW TO RIDE A BICYCLE SAFELY.

2. BICYCLES COME IN ALL DIFFERENT SIZES AND DESIGNS, BUT YOU MUST SELECT A BICYCLE WHICH FITS YOU PROPERLY IN ORDER TO RIDE SAFELY.

3. TRAFFIC DEVICES TELL US THINGS WHEN WE RIDE. WE MUST TELL OTHER DRIVERS AND RIDERS THINGS ABOUT WHAT WE ARE GOING TO DO. WE MUST LEARN TO SIGNAL PROPERLY. WE MUST KNOW THE RULES OF RIGHT-OF-WAY.

4. WE MUST ALWAYS RIDE IN A SAFE AREA.

ACTIVITIES-

1. TAKE CLASS ON WALK TO DO FOLLOWING THINGS:
   A. LOCATE SAFE AREAS TO RIDE.
   B. OBSERVE TRAFFIC AND DISCUSS THE SAFETY HAZARDS IN THE NEIGHBORHOOD
   C. OBSERVE TRAFFIC AND DISCUSS THE DRIVING PRACTICES THEY OBSERVED, I.E. SPEEDING, DISOBEYING TRAFFIC CONTROLS, FAILING TO SIGNAL, ETC.

2. ORGANIZE BICYCLE RIDING AS A PHYSICAL EDUCATION ACTIVITY. USE SCHOOLYARD.

3. OBTAIN BICYCLE AND DEMONSTRATE PROPER FIT OF BICYCLE.

4. USE BICYCLE FOR STUDENTS TO IDENTIFY PARTS AND THEIR FUNCTIONS.

5. USE FLASH CARDS OR MODELS TO REVIEW TRAFFIC DEVICES AND THEIR MEANINGS.

6. HAVE CHILDREN DRAW SAFETY POSTERS FOR SCHOOL.

7. HAVE CHILDREN DRAW MAPS OF SCHOOL AREA, MARKING OFF SAFE AND UNSAFE RIDING AREAS.

8. INVITE POLICE OFFICER OR SCHOOL CROSSING GUARD TO DISCUSS SAFETY WITH CLASS.

9. DEVELOP OPPORTUNITIES FOR CHILDREN TO PLAY GAMES WITH BICYCLES. (SEE GAMES SECTION).

BEHAVIORAL OBJECTIVES

1. STUDENTS WILL DEMONSTRATE SAFE BICYCLE RIDING SKILLS IN A CONTROLLED SITUATION. (E.G. SCHOOLYARD).

2. STUDENTS WILL EXPLAIN HOW TO SELECT A BICYCLE WHICH FITS THEM.

3. STUDENTS WILL IDENTIFY AND EXPLAIN ALL TRAFFIC DEVICES.

4. STUDENTS WILL DEMONSTRATE AND EXPLAIN ALL HAND SIGNALS.

GRADE FOUR

AIMS-

1. TO TEACH CHILDREN THAT BICYCLES ARE REQUIRED TO HAVE CERTAIN SAFETY EQUIPMENT AS PRESCRIBED BY LAW.

2. TO TEACH CHILDREN THAT THE BICYCLE IS A PIECE OF MACHINERY AND NEEDS CARE TO KEEP IT IN GOOD RIDING CONDITION.

3. TO TEACH CHILDREN THAT THEY HAVE CERTAIN RESPONSIBILITIES AS BICYCLE RIDERS.

4. TO REVIEW AIMS FOR ALL PREVIOUS GRADES.

CONCEPTS-

1. BICYCLE RIDING IS A SKILL REQUIRING PRACTICE AND KNOWLEDGE.

2. A BICYCLE RIDER MUST BE AWARE OF SAFETY AT ALL TIMES.

3. A BICYCLE RIDER MUST OBEY TRAFFIC CONTROLS AND USE PROPER HAND SIGNALS.

4. A BICYCLE NEEDS CARE AND MAINTENANCE TO OPERATE SAFELY.

5. A BICYCLE MUST HAVE PROPER SAFETY EQUIPMENT IN WORKING ORDER.

ACTIVITIES-

1. USE BICYCLE RIDING TESTS AND GAMES AS PART OF PHYSICAL EDUCATION PROGRAM.

2. ORGANIZE BICYCLE INSPECTION PROGRAM WITH AID OF LOCAL POLICE OR SERVICE ORGANIZATION.

3. TAKE CLASS FOR WALK AROUND SCHOOL. HAVE THEM RECORD THEIR OBSERVATIONS OF TRAFFIC CONDITIONS. IN CLASS HAVE THEM DISCUSS PROBLEMS OF TRAFFIC IN AREA.

4. Have children draw posters to illustrate traffic safety rules for bicycles.

5. Review identification and meaning of all traffic control devices.

6. Have children develop a bicycle safety traffic court. Allow them to role-play various traffic situations in the court setting.

7. Show film or invite speaker to discuss traffic safety.

8. Use and adapt bicycle-rider test program. (See chapter III-Resources).

Behavioral Objectives

1. Children will demonstrate safe skills during the bicycle riding test.

2. Children will identify and explain all traffic control devices.

3. Children will demonstrate and explain all hand signals.

4. Children will check their bicycles for all needed safety equipment.

5. Children will discuss and explain those traffic hazards that particularly affect bicycle riders.

GRADE FIVE

AIMS-

1. To teach children basic maintenance procedures needed for safe operation of a bicycle.

2. To teach children why safety equipment is needed on bicycles.

3. To measure how to properly ride a bicycle.

4. To give children a full appreciation of the laws and responsibilities which fall on a bicycle rider.

5. To teach children the proper methods of security of their bicycles.

6. To review aims for all previous grades.

Concepts-

1. Bicycle riding is a skill requiring both riding practice and classroom knowledge.

2. Bicycle riders are responsible for their own safety and for the safety of others.

3. The bicycle rider is responsible for the safe operating condition of his/her bicycle.

4. The bicycle rider is responsible for knowing the laws about bicycle riding.

5. The bicycle rider must be safety-conscious at all times. (ride defensively).

6. The bicycle must be secured when it is not being ridden.

Activities-

1. Organize bicycle inspection program with repair and maintenance

WORKSHOPS. USE LOCAL MERCHANTS, SERVICE ORGANIZATIONS OR POLICE TO ASSIST PROGRAM.

2. PARTICIPATE IN BICYCLE ANTI-THEFT REGISTRATION PROGRAM AVAILABLE THROUGH LOCAL POLICE STATIONS.

3. ORGANIZE BICYCLE RIDES AS PART OF PHYSICAL EDUCATION PROGRAM.

4. USE OR ADAPT FIELD TEST AREA FOR TESTING BICYCLE RIDING SKILLS.

5. USE FIELD TEST AREA FOR TESTING AND CERTIFYING STUDENTS AS SAFE BICYCLE RIDERS.

6. USE FIELD TEST AREA FOR BICYCLE GAMES AND FUN ACTIVITIES.

7. ORGANIZE BICYCLE RIDING FIELD TRIPS.

8. DEVELOP SAFETY TRAFFIC COURT FOR BICYCLE RIDERS.

9. USE FILMS AND FILMSTRIPS TO ILLUSTRATE SAFE BICYCLE RIDING TECHNIQUES.

10. REVIEW MEANING AND PURPOSE OF ALL TRAFFIC CONTROL DEVICES. USE AREA AROUND SCHOOL IF POSSIBLE TO SHOW PRATICAL USES OF THESE DEVICES.

11. DEVELOP ASSEMBLY PROGRAMS ON BICYCLE SAFETY, ESPECIALLY USEFUL FOR PRESENTATION TO LOWER GRADE STUDENTS.

12. PLAN AND EXECUTE SPRING TRIP TO BICYCLE RIDING ACTIVITY.

BEHAVIORAL OBJECTIVES-

1. CHILDREN WILL DEMONSTRATE SAFE BICYCLE RIDING DURING SKILL TESTS AND FIELD TRIPS.

2. CHILDREN WILL CHECK A BICYCLE FOR ALL SAFETY EQUIPMENT NEEDED AND EXPLAIN THE REASON FOR EACH SAFETY DEVICE.

3. CHILDREN WILL PERFORM BASIC MAINTENANCE PROCEDURES ON BICYCLE

BY ADJUSTING SEATS AND HANDLEBARS, LUBRICATING CHAIN AND AXLES, INSPECTING TIRES, CHECKING AND TIGHTENING NUTS AND BOLTS.

4. CHILDREN WILL EXPLAIN ALL LAWS REGARDING BICYCLES AND TRAFFIC.

5. CHILDREN WILL DEMONSTRATE PROPER WAYS TO SECURE BICYCLES WHEN NOT BEING RIDDEN.

GRADE SIX

AIMS-

1. TO GIVE STUDENTS AN APPRECIATION OF THE BICYCLE AND ITS POTENTIAL USES FOR TRANSPORTATION, RECREATION, EXERCISE AND FITNESS AND JOB RELATED ACTIVITIES.

2. TO HAVE STUDENTS DEVELOP AN APPRECIATION OF THE IMPORTANCE OF REGULAR MAINTENANCE.

3. TO HAVE STUDENTS FULLY UNDERSTAND THE RESPONSIBILITIES OF SAFE BICYCLE RIDING.

4. TO TEACH THE IMPORTANCE OF BEING VISIBLE ON A BICYCLE AT NIGHT.

5. TO REVIEW AIMS FOR ALL PREVIOUS GRADES.

CONCEPTS-

1. THE BICYCLE CAN BE USED AS A METHOD OF TRANSPORTATION.

2. THE BICYCLE CAN BE USED FOR RECREATION.

3. THE BICYCLE CAN BE USED FOR WORK.

4. THE BICYCLE CAN BE DANGEROUS.

5. LAWS AND SAFETY RULES FOR THE BICYCLE ARE DESIGNED TO PROTECT THE RIDER AND PEDESTRIANS.

6. THE BICYCLE CAN BE USED TO HELP CONSERVE ENERGY AND REDUCE POLLUTION.

ACTIVITIES-

1. DEVELOP BULLETIN BOARDS AND OTHER DISPLAYS OF BICYCLE ACTIVITIES AND BICYCLE SAFETY.

2. PLAN AND EXECUTE BICYCLE GAMES AND TRIPS.

3. VIEW FILMS ON VARIOUS BICYCLE ACTIVITIES AND SAFETY.

4. DEVELOP STUDENT LOGS OF BICYCLE USE.

5. PLAN ASSEMBLY PROGRAMS ON BICYCLE USE AND SAFETY.

6. HAVE CLASS MEMBERS BECOME BIG BROTHERS/BIG SISTERS FOR LOWER GRADE CLASSES TO AID IN TEACHING BICYCLE RIDING, MAINTENANCE, ETC.

7. PLAN BICYCLE ACTIVITIES FOR USE IN PHYSICAL EDUCATION PROGRAM.

8. SHOW HOW REFLECTORS AND SPECIAL CLOTHING AID IN NIGHTTIME VISIBILITY.

9. REVIEW ALL ASPECTS OF BICYCLE SAFETY TAUGHT IN PREVIOUS GRADES.

10. USE BICYCLE SAFETY RIDING TESTS.

BEHAVIORAL OBJECTIVES-

1. CHILDREN WILL DEMONSTRATE SAFE BICYCLE RIDING DURING SKILL TESTS AND FIELD TRIPS.

2. CHILDREN WILL DEMONSTRATE BASIC MAINTENANCE PROCEDURES FOR THEIR BICYCLES.

3. CHILDREN WILL DEMONSTRATE PROPER BICYCLE SAFETY THEFT PREVENTION.

4. CHILDREN WILL SAFELY EQUIP THEIR BICYCLES WITH REFLECTORS.

SUMMARY LIST OF POSSIBLE ACTIVITIES

1) Class discussions

2) Role Playing - Police officer, bicyclist, automobile driver and pedestrian

3) Mapping safe bicycle route to school; around neighborhood

4) Students' list of safety rules

5) Films/slides for discussion

6) Traffic officers, crossing guards visit classrooms

7) List of New York State Bicycle Laws

8) Construct models of traffic signs, traffic lights

9) Flash card games - traffic signals and signs

10) Construct tabletop town to teach safety hazards

11) Present assembly program on bicycle safety

12) Develop safety team for school or district

13) Hold a bicycle inspection/registration day

14) Form a Bicycle Club

15) Lay out a safety riding course in schoolyard

16) Use bicycle riding as a part of Physical Education -
a) trips b) games c) riding skills development

17) Visit a local bicycle shop

18) Bicycle Safety Poster and Slogan contest

SUMMARY LIST OF POSSIBLE ACTIVITIES

19) Bicycle Safety Court Program

20) Bicycle Safety column in school newspaper

21) Bicycle Safety Field Day

22) Science Curriculum-related activities - e.g. night vision, speed judgement, momentum, impact, etc.

23) Bicycle Maintenance Clinic

24) Games - spelling bee on vocabulary, riddles, crosswords, matching columns, etc.

CHAPTER III

RESOURCES

HISTORY OF THE BICYCLE

SELECTING AND FITTING OF THE BICYCLE

CARE AND MAINTENANCE OF THE BICYCLE

RULES OF THE ROAD

TRAFFIC CONTROL DEVICES

RIDING THE BICYCLE

CLASSROOM TESTING AND QUIZ MATERIALS

PRACTICAL FIELD TESTING

BICYCLE GAMES AND CONTESTS

MATERIALS

HISTORY OF THE BICYCLE

A BICYCLE IS EVERY DEVICE PROPELLED BY THE FEET ACTING UPON PEDALS, HAVING WHEELS ANY TWO OF WHICH ARE MORE THAN 20 INCHES IN DIAMETER.

1816 KARL VON DRAISE, GERMANY, INVENTED A DEVICE CALLED THE "DRAISINE". A VEHICLE WITH TWO CARRIAGE WHEELS JOINED IN TANDEM WITH A CROSS BRACE WHICH ALSO ACTED AS A SEAT. THE VEHICLE WAS PROPELLED BY PUSHING.

1819 DENNIS JOHNSON, ENGLAND, INVENTED A DESIGN CALLED THE "HOBBY HORSE". HIS DESIGN MADE A DISTINCTION BETWEEN MEN AND WOMEN BIKES WHICH REMAINS TODAY.

1839 KIRK MACMILLAN, SCOTLAND, APPLIED PEDALS TO THE "HOBBY HORSE".

1861 MICHAUX BROTHERS, FRANCE, ATTACHED ROTARY CRANK TO FRONT WHEEL.

1870 APPEARANCE OF LARGER FRONT WHEEL VEHICLE CALLED "VELOCIPEDE".

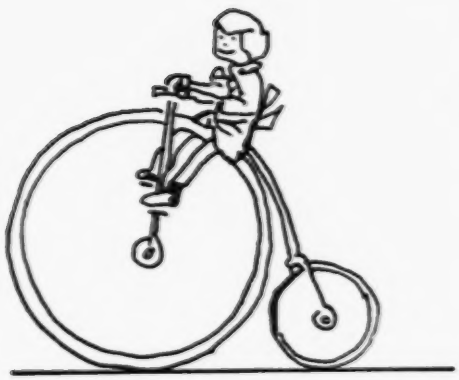
1877 FIRST BICYCLE MADE IN AMERICA. MADE FOR COL. ALBERT A. POPE, BOSTON. IT COST $313.00 AND WEIGHED 70 POUNDS.

1884 J.K. STARKEY, ENGLAND, DEVELOPED DESIGN CALLED THE "ROVER", THE BASIS FOR THE MODERN BICYCLE. WITH IMPROVEMENTS THIS BECAME THE "SAFETY BICYCLE".

"DRAISINE" 1816

"HOBBY HORSE" 1819

FRONT WHEEL CRANK 1861



VELOCIPEDE 1870

SELECTING AND FITTING A BICYCLE

THERE ARE A WIDE RANGE OF BICYCLE STYLES AVAILABLE TO CHILDREN. YOUR STUDENTS MAY HAVE THEIR OWN SET IDEAS ABOUT WHAT STYLES THEY WANT. SIZE, HOWEVER, IS QUITE ANOTHER MATTER AND SAFETY IS A REAL CONSIDERATION HERE. AS THEIR TEACHER, NOT ONLY CAN YOU HELP YOUR STUDENTS IN SELECTING A SIZE THAT IS COMFORTABLE AND SAFE FOR THEM, BUT YOU CAN TURN THE LESSONS INTO ENJOYABLE LEARNING ACTIVITIES, COMPLETE WITH OPPORTUNITIES FOR TEACHING OR REVIEWING SOME BASIC MATH SKILLS.

THE OBJECTIVES FOR THE CHILDREN ARE:

A) CHILDREN SHOULD GAIN AN UNDERSTANDING OF HOW THE "RIGHT SIZE" IS RELATED TO THE SAFE HANDLING OF THEIR BICYCLE.

B) CHILDREN SHOULD LEARN THE CRITERIA FOR BICYCLE SIZE AS RELATED TO THEIR OWN HEIGHT, LEG LENGTH, EVEN THEIR AGE.

C) CHILDREN SHOULD LEARN WHAT SIZE IS "RIGHT FOR THEM" AND BE ABLE TO SELECT A BICYCLE ACCORDINGLY. THAT APPLIES NOT ONLY TO PURCHASING A BICYCLE, BUT EVEN TO USING A FRIENDS'S BICYCLE FOR A WHILE.

D) CHILDREN SHOULD BE ABLE TO PERFORM MEASURING AND RECORDING SKILLS IN ACCORDANCE WITH THEIR GRADE LEVEL.

SUGGESTED ACTIVITIES DONE EASILY IN THE CLASSROOM

A) HAVE THE CHILDREN MAKE A WALL CHART OF THEIR INDIVIDUAL HEIGHTS. (THIS INVOLVES MEASURING AND RECORDING SKILLS,AND EVEN SOME ESTHETICS BECAUSE THE CHART WILL BE SUITABLE FOR DISPLAY ON YOUR CLASSROOM WALL). CHILDREN MIGHT RECORD THEIR HEIGHT IN BOTH INCHES AND CENTIMETERS.

STUDENTS COULD BE DIVIDED INTO SMALL GROUPS, PERHAPS 4-6 CHILDREN PER GROUP, TO MEASURE ONE ANOTHER. STRING IS MOST EASILY USED AS A MEASURING DEVICE. FOOT RULERS ARE UNWIELDY AND YARDSTICKS MAY NOT BE AVAILABLE IN THE QUANTITY YOU NEED. EACH CHILD WOULD RECEIVE A LENGTH OF STRING WITH CRAYON OR MAGIC MARKER. THE LENGTHS OF STRING CAN THEN BE MEASURED AGAINST YARDSTICKS OR AGAINST A WALL CHART HAVING BOTH/EITHER INCH AND METRIC GRADATIONS. THE INFORMATION CAN THEN BE RECORDED ON THE CLASS MASTER CHART. IF DESIRED, OLDER STUDENTS MIGHT DO THEIR OWN

TYPE OF BICYCLE

Choose one suited to the rider's abilities and the kind of riding they expect to do.

A "middleweight" bicycle offers stability and strength for everyday riding. Usually it is single speed, with balloon tires, fenders and coaster brakes.

A "lightweight" bicycle responds well in distance riding and sports. Typical lightweights come with 3,5,or 10 gear speeds with hub or derailleur shift mechanisms.

A "high-rise" is mainly for fun since it maneuvers easily, but is hard to pedal for long distances. A long "banana" seat and vertical backrest could invite the rider to perform hazardous "wheelies" that could flip bike and rider over backwards.

METRIC CONVERSIONS AS PART OF THE ACTIVITY. ONE GROUP MIGHT MEASURE IN METRIC AND CONVERT TO INCHES WHILE THE OTHER GROUP DOES THE OPPOSITE.

B) A FEW CHILDREN MIGHT BRING THEIR BICYCLES TO SCHOOL ON AN APPOINTED DAY. THE BICYCLES SHOULD REPRESENT SOME RANGE IN SIZE. PERHAPS A BROTHER OR SISTER OF ONE OF YOUR STUDENTS, WHO IS IN ANOTHER GRADE COULD BRING A BICYCLE IN ORDER TO PROVIDE A WIDER RANGE IN SIZES. STUDENTS COULD THEN "TRY BIKES ON FOR SIZE".

FITTING THE BICYCLE

1. THE RIDER SHOULD BE ABLE TO STRADDLE THE CROSSBAR COMFORTABLY AND HAVE BOTH FEET FIRMLY ON THE GROUND. TWO INCHES IS CONSIDERED TO BE THE OPTIMUM SPACE BETWEEN THE CROSSBAR AND THE CROTCH. USE BOYS' STYLE FRAMES FOR GIRLS ALSO.

AN ALTERNATE OR JOINT METHOD TO FIT A BICYCLE:

2. THE DISTANCE FROM THE FRONT TIP OF THE SEAT OR SADDLE TO THE STEM BOLT OF THE HANDLEBARS SHOULD BE APPROXIMATELY THE SAME DISTANCE AS THE LENGTH OF THE ARM FROM THE ELBOW TO THE TIP OF THE FINGERS. IF THE BICYCLE IS TOO SMALL, THE FINGERS WILL OVERLAP THE HANDLEBARS. CONVERSELY, IF THE BICYCLE IS TOO LARGE, THE FINGERS WILL NOT REACH THE HANDLEBARS. TO TEST PLACE THE ELBOW AT THE TIP OF THE SEAT AND REACH FOR THE HANDLEBARS WITH THE FINGERS.

3. ONCE THE PROPER BICYCLE SIZE IS SELECTED, MAXIMUM RIDER EFFICIENCY CAN BE OBTAINED BY ADJUSTING THE HEIGHT OF THE SEAT. PLACE THE HEEL OF THE FOOT ON THE PEDAL IN THE LOWER POSITION. THE LEG SHOULD BE ALMOST STRAIGHT WHEN SITTING ERECT ON THE SEAT.

CARE AND MAINTENANCE OF BICYCLES

A BICYCLE IS AN INVESTMENT, WHICH CAN PROVIDE THE OWNER WITH MANY YEARS OF SERVICE. THE LENGTH OR QUALITY OF SERVICE A PERSON GETS FROM A BICYCLE IS DIRECTLY RELATED TO THE CARE GIVEN TO THAT BICYCLE. THIS SECTION WILL HELP THE BICYCLE OWNER CARE FOR HIS/HER BICYCLE.

ALL BICYCLES SHOULD HAVE A SAFETY INSPECTION PERFORMED EACH YEAR BY A QUALIFIED MECHANIC. IN ADDITION THE RIDER SHOULD BE AWARE OF THE FOLLOWING PROCEDURES WHICH WILL HELP TO KEEP HIS/HER BICYCLE IN GOOD CONDITION BETWEEN CHECKUPS.

1. KEEP BICYCLE CLEAN AND DRY, APPLY WAX TO THE FRAME AND CHROME REGULARLY.

2. KEEP CHAIN AT PROPER TENSION, CLEAN OF RUST AND LIGHTLY OILED.

3. CHECK TIRES FOR PROPER PRESSURE, TREAD WEAR AND CRACKS IN THE SIDE WALLS.

4. CHECK VALVES FOR LEAKAGE OF AIR.

5. CHECK BRAKES AND ADJUST IF NECESSARY.

6. CHECK WHEELS FOR TRUE BALANCE, FOR LOOSE OR BROKEN SPOKES AND DENTS IN THE RIMS.

7. CHECK PEDALS FOR LOOSE NUTS AND PROPER LUBRICATION.

8. CHECK HANDLEBARS AND STEERING COLUMN FOR EXCESS PLAY, TIGHTEN IF NECESSARY.

9. ADJUST AND TIGHTEN SADDLE AT PROPER HEIGHT FOR RIDER.

10. CHECK AND CLEAN REFLECTORS AND OTHER SAFETY EQUIPMENT.

11. CHECK FOR RATTLES, TIGHTEN ALL LOOSE NUTS AND BOLTS.

12. AVOID RIDING THROUGH PUDDLES.

13. AVOID RIDING IN SAND.

14. CHECK BRAKE AND GEAR CABLES FOR FRAYING OR WEAR.

15. IF YOU PUT BICYCLE DOWN, DO SO ON SIDE AWAY FROM THE GEAR CABLES.

16. ALWAYS SECURE YOUR BICYCLE WHEN LEAVING IT.

BICYCLE INSPECTION CHECK LIST

NAME_____ DATE_____

		FRONT Yes	FRONT No	REAR Yes	REAR No
WHEELS	SPOKES MISSING OR BROKEN	( )	( )	( )	( )
	LOOSE SPOKES	( )	( )	( )	( )
	HUB BEARING BINDS, RESTRICTING FREE MOVEMENT	( )	( )	( )	( )
	WARPED OR BENT RIM	( )	( )	( )	( )
	BEARING PLAY OVER 3/8" AT RIM	( )	( )	( )	( )
TIRES	BULGES OR DEFECTS	( )	( )	( )	( )
	IMPROPER INFLATION	( )	( )	( )	( )
	WORN TREAD	( )	( )	( )	( )
FENDERS	LOOSE	( )	( )	( )	( )
	BROKEN SUPPORTS	( )	( )	( )	( )

		Yes	No			Yes	No
FRAME	BROKEN	( )	( )	CHAIN GUARD	MISSING	( )	( )
	BENT	( )	( )	SPROCKET	LOOSE BEARINGS	( )	( )
FORK	BEARING TOO LOOSE	( )	( )		BEARING BINDS	( )	( )
	BENT	( )	( )	HANDLEBARS	LOOSE	( )	( )
SEAT	LOOSE	( )	( )		GRIP MISSING	( )	( )
	IMPROPER HEIGHT OR ANGLE	( )	( )		GRIP LOOSE	( )	( )
BRAKE	INSUFFICIENT STOPPING ACTION	( )	( )	WARNING DEVICE	MISSING	( )	( )
	UNEVEN STOPPING ACTION	( )	( )		BROKEN	( )	( )
PEDALS	TOO LOOSE	( )	( )	HEADLIGHT	MISSING	( )	( )
	PARTS MISSING	( )	( )		TOO DIM	( )	( )
	BEARINGS BIND	( )	( )		BROKEN LENS	( )	( )
CHAIN	TOO TIGHT	( )	( )	REAR REFLECTOR	MISSING	( )	( )
	TOO LOOSE	( )	( )		BROKEN	( )	( )
	WEAK LINKS	( )	( )	SPEEDOMETER	MISSING	( )	( )
	RUSTY AND NOT LUBRICATED	( )	( )		INACCURATE	( )	( )

BRAKING EFFIENCY_____FEET

CHECK LIST FORMAT SUGGESTED BY AMERICAN AUTOMOBILE ASSOCIATION.

RULES OF THE ROAD

1. DRIVE A SAFE BICYCLE. HAVE IT INSPECTED TO INSURE GOOD MECHANICAL CONDITIONS.

2. OBEY ALL TRAFFIC REGULATIONS, SIGNS, SIGNALS, AND MARKINGS.

3. OBSERVE ALL LOCAL ORDINANCES PERTAINING TO BICYCLES.

4. REGISTER AND LICENSE YOUR BICYCLE AT YOUR LOCAL PRECINCT.

5. KEEP TO THE <u>RIGHT HAND</u> SIDE OF THE ROAD.

6. RIDE WITH THE TRAFFIC, NEVER AGAINST TRAFFIC.

7. RIDE IN SINGLE FILE.

8. RIDE IN A STRAIGHT LINE, KEEP IN YOUR LANE.

9. AVOID CROWDED AND HIGH SPEED ROADS. USE LESS TRAVELLED ROADS IF POSSIBLE.

10. ALWAYS GIVE PEDESTRIANS THE RIGHT OF WAY.

11. KEEP A SAFE DISTANCE BEHIND MOVING CARS.

12. WATCH FOR CAR DOORS OPENING OR CARS PULLING INTO TRAFFIC.

13. KEEP BOTH HANDS ON THE HANDLEBARS.

14. ALTHOUGH LOOKING STRAIGHT AHEAD, LISTEN CONSTANTLY FOR TRAFFIC APPROACHING OUT OF YOUR LINE OF VISION.

15. WATCH OUT FOR THE OTHER PERSON, <u>RIDE DEFENSIVELY</u>.

16. WHEN PASSING A SLOWER MOVING VEHICLE OR BICYCLE IN THE SAME DIRECTION, PASS ON THE LEFT.

17. WATCH OUT FOR ROAD SURFACE CONDITIONS AND HAZARDS SUCH AS WET ROAD, SOFT SHOULDER, RAILROAD TRACKS, SEWERS AND GRATINGS, LOOSE GRAVEL.

18. NEVER HITCH A RIDE ON A TRUCK OR OTHER VEHICLE.

19. DON'T CARRY PASSENGERS OR PACKAGES WHICH INTERFERE WITH YOUR VISION OR CONTROL.

20. SLOW DOWN AND BE CAREFUL AT ALL INTERSECTIONS, ESPECIALLY WHEN MAKING LEFT TURNS.

21. WALK YOUR BICYCLE ACROSS BUSY STREETS.

22. USE HAND SIGNALS AND GIVE THEM WELL IN ADVANCE OF YOUR ACTION.

23. PROTECT YOURSELF - WEAR BRIGHT OR LIGHT COLORED CLOTHING AND USE REQUIRED REFLECTORS, ESPECIALLY AT NIGHT.

24. BEWARE OF THER CYCLISTS, THEIR ACTIONS MAY BE SUDDEN OR ERRATIC.

25. BE PREDICTABLE.

TRAFFIC CONTROL DEVICES

TODAY'S ROADS ARE FILLED WITH VEHICLES TRAVELLING AT HIGH SPEEDS. WE WANT TRAFFIC TO MOVE CONTINOUSLY ALONG ITS WAY WITH A MINIMUM OF DELAY BUT WITH A MAXIMUM OF SAFETY. IN ORDER TO INSURE THIS SAFETY, WE CONTROL THE FLOW OF TRAFFIC WITH THREE DEVICES: TRAFFIC SIGNS, ROAD MARKINGS AND TRAFFIC LIGHTS. TO MAKE THESE DEVICES UNIVERSALLY UNDERSTOOD, THEIR MEANINGS ARE DERIVED FROM THEIR COLOR, SHAPE AND SYMBOLS. TRAFFIC CONTROL DEVICES ARE NOW THE SAME IN ALMOST ALL PARTS OF THE WORLD.

THE CHART BELOW LISTS THE VARIOUS DEVICES AND THEIR MEANINGS:

TRAFFIC SIGNS

COLOR CODE:

RED	STOP OR PROHIBITION
YELLOW	WARNING
ORANGE	CONSTRUCTION
GREEN	PERMITTED MOVEMENTS, DIRECTIONS OR GUIDANCE
BLACK & WHITE	REGULATIONS
BLUE	MOTORISTS SERVICES GUIDANCE
BROWN	PUBLIC RECREATION GUIDANCE

SIGN SHAPES:

OCTAGON	STOP
DIAMOND	WARNING
TRIANGLE WITH POINT DOWN	YIELD
CIRCLE	RAILROAD CROSSING

Sign Shapes:

Pentagon with point up	School
Rectangle	Information and Regulation

On a sign a Red Circle with Slash means "NO". This is superimposed on whatever other symbol appears on the sign.

Road Markings:

1. Broken Line	Defines traffic lanes, you may cross it.
2. Solid Line	Defines opposing traffic lines, you may cross it if conditions are favorable. Be cautious.
3. Solid and Broken Line	No crossing on side of road with solid line, crossing from side with broken line only with extreme caution.
4. Double solid line	No crossing allowed at any time.

RIDING THE BICYCLE

Starting The Bicycle

To help the beginner learn to ride, the teacher might follow this procedure. First select a quiet, traffic-free area in a parking lot or school yard. The bicycle seat may be lowered so that the beginner can reach the ground while seated (or use a smaller bicycle). This will allow the beginner to have the confidence that she/he can recover his/her balance and avoid a fall. After the rider has learned to balance, the seat can be raised to the proper height or a transfer can be made to a larger bicycle. Method A: The teacher should have the students work in pairs. The buddy should position her/himself behind the rider and hold the back of the saddle. The buddy should run along behind the rider but out of sight and should give assistance only for balance.

The rider should be instructed to push off firmly, look straight ahead and pedal hard to maintain forward motion. The rider should attempt to ride in a straight line. As the rider gains confidence and balance the buddy may be asked to let go of the bike without letting the rider know she/he is doing it. All preliminary instruction should be limited in distance to no more than 100 feet. The student may also learn balance by using the following exercise: Have the rider stand with both hands on the handlebar grips and her/his body on the left side of the bicycle. The rider then places the left foot on the pedal and uses the right foot to push the ground and causes the bike to move forward "scooter" style. This exercise will help the rider learn balance as well as gain a sense of momentum.

As the rider gains confidence and balance she/he may try the following exercise to improve mounting and dismounting skills. The rider should assume the mounting position, push off and simultaneously press down on the pedal and raise her/his body upward and backward onto the seat. After pedaling a few feet, the rider should apply the brakes, when almost stopped the rider should pull her/his body forward off the seat with one foor on the low pedal. She/he should reach out and contact the ground with the opposite foot as the bicycle comes to a halt.

METHOD B: ON A BICYCLE WHICH IS PURPOSELY A SIZE TOO SMALL FOR THE RIDER, HAVE THE RIDER SIT ON THE SEAT AND STRADDLE THE BICYCLE WITH BOTH FEET FIRMLY ON THE GROUND. INSTRUCT THE RIDER TO "WALK" THE BICYCLE WITHOUT LEAVING THE SEAT. GRADUALLY LENGTHEN THE WALK TO SHORT GLIDES AND STRETCH SHORT GLIDES INTO LONGER ONES. ONCE CONFIDENCE HAS BEEN DEVELOPED, START TO GLIDE AND PLACE ONE FOOT ON THE PEDAL; PRACTICE ONE SIDE THEN THE OTHER. SLOWLY THE RIDER WILL BE ABLE TO PLACE BOTH FEET ON THE PEDALS AFTER THE BICYCLE IS SET INTO MOTION.

AT THIS POINT FOLLOW STEPS AS OUTLINED ABOVE WITHOUT USING THE BUDDY SYSTEM.

RIDING THE BICYCLE

AFTER THE RIDER HAS LEARNED TO START THE BICYCLE AND CONTROL HIS/HER BALANCE, SHE/HE MUST LEARN TO ASSUME A GOOD RIDING POSTURE. THE RIDER SHOULD SIT SQUARELY ON THE CENTER OF THE SADDLE, LOOKING STRAIGHT AHEAD. SHE/HE SHOULD BE LEANING FORWARD SLIGHTLY WITH BOTH HANDS ON THE HANDLEBAR GRIPS. THE SHOULDERS SHOULD BE KEPT STEADY AND NOT MOVED AS THE RIDER IS PEDALING. THE RIDER SHOULD USE THE BALL OF THE FOOT TO CONTACT THE PEDAL. THE RIDER SHOULD PEDAL STRAIGHT WITH THE KNEES KEPT PARALLEL TO THE BIKE. THE RIDER SHOULD PUT THE WEIGHT OF THE BODY ON THE PEDAL AS IT PASSES THE TOP OF THE STROKE. SHE/HE SHOULD PEDAL EVENLY AND KEEP A STEADY RHYTHM.

BRAKING THE BICYCLE

THERE ARE TWO TYPES OF BRAKING SYSTEMS USED ON BICYCLES. MOST SIMPLE BICYCLES ARE EQUIPPED WITH A COASTER BRAKE. THIS SYSTEM IS ENGAGED BY SIMPLY ROTATING THE PEDALS IN A BACKWARD DIRECTION. THE OTHER SYSTEM IS THE HAND BRAKE SYSTEM IN WHICH LEVERS MOUNTED ON THE HANDLEBARS NEAR THE GRIPS ARE SQUEEZED TO ACTIVATE THE BRAKE SYSTEM. IN THIS, THE LEVERS CAUSE PADS TO SQUEEZE AGAINST THE RIMS OF THE WHEELS TO STOP THEM. A SINGLE LEVER CONTROLS THE PADS FOR A SINGLE WHEEL. BICYCLES MAY BE EQUIPPED WITH EITHER SYSTEM OR A COMBINATION OF THE TWO.

WITH EITHER BRAKING SYSTEM THE SAME GENERAL RULES APPLY. BRAKES SHOULD NOT BE JAMMED ON, THEY SHOULD BE APPLIED SMOOTHLY AND EVENLY UNTIL THE BICYCLE HAS STOPPED. IF THE BICYCLE IS EQUIPPED WITH HAND

BRAKES, IT IS IMPORTANT TO KNOW WHICH LEVER CONTROLS THE BRAKE ON THE FRONT WHEEL AND WHICH CONTROLS THE REAR WHEEL. DO NOT TRY TO SLOW DOWN OR STOP A BICYCLE WITH THE FRONT BRAKE ONLY. THIS CAN THROW THE RIDER HEAD OVER HEELS.

DISMOUNTING

APPLY THE BRAKES TO SLOW BICYCLE. WITH ONE FOOT ON PEDAL IN THE LOW POSITION COAST AND PULL BODY OFF SADDLE, THEN APPLY BRAKES TO STOP BICYCLE AND LOWER OPPOSITE FOOT TO CONTACT GROUND AS BICYCLE STOPS. WITH BICYCLE STOPPED, SWING LEG FROM LOW PEDAL OVER CROSSBAR WHILE HOLDING HANDLEBAR GRIPS WITH BOTH HANDS.

SECURING YOUR BICYCLE

BICYCLES HAVE BECOME A POPULAR FORM OF TRANSPORTATION. THE COST OF BICYCLES HAS RISEN AS NEW EQUIPMENT AND TECHNOLOGY ARRIVES. BICYCLE THEFT HAS BECOME A MAJOR PROBLEM TODAY. IT IS IMPORTANT THAT ALL STUDENTS UNDERSTAND THE NEED FOR SECURING THEIR BICYCLES.

A BICYCLE IDENTIFICATION AND REGISTRATION PROGRAM IS RECOMMENDED FOR ALL SCHOOLS. IN THE PROGRAM COOPERATION WITH THE LOCAL POLICE DEPARTMENT WILL RESULT IN THE REGISTRATION OF ALL BICYCLES AND THEIR SERIAL NUMBERS. THE BICYCLES CAN ALSO BE MARKED WITH SPECIAL TOOLS AS AN ADDED MEANS OF IDENTIFICATION. THESE IDENTIFICATION NUMBERS AND MARKS CAN BE REGISTERED WITH THE LOCAL POLICE DEPARTMENT. AS A SIDE BENEFIT OF THIS, ALL BICYCLES WHICH ARE REGISTERED CAN BE SAFETY-CHECKED AND LICENSED. ANY SAFETY HAZARDS CAN BE IDENTIFIED AND THE OWNERS CAN HAVE THEM CORRECTED.

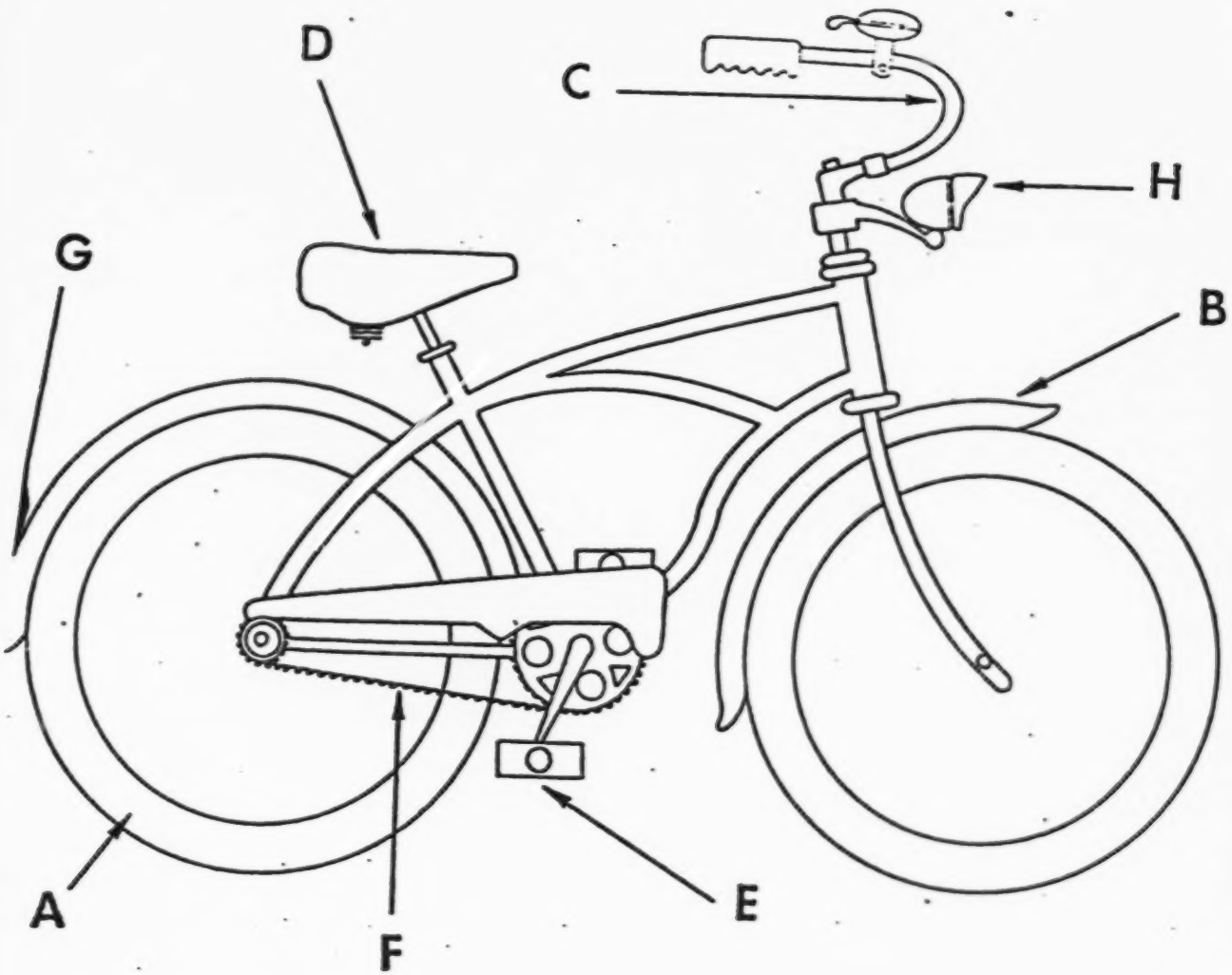
A RECOMMENDED PRACTICE FOR SECURING A BICYCLE DURING THE DAY OR WHEN NOT IN USE WOULD BE BY USE OF A LOCK AND CHAIN. A 3/8 INCH CASE-HARDENED CHAIN WITH A STRONG PADLOCK IS THE MINIMUM RECOMMENDATION. IN ADDITION, WHEN SECURING YOUR BICYCLE, YOU SHOULD CHAIN THE FRAME AND REAR WHEEL TOGETHER TO AN IMMOVABLE OBJECT. ALSO, TAKE THE FRONT WHEEL WITH YOU IF YOU CAN. LOCK YOUR BICYCLE IN A PLACE WHICH HAS HEAVY PEDESTRIAN TRAFFIC AT ALL HOURS OF THE DAY AND INSIDE WHENEVER POSSIBLE. NEVER LEAVE YOUR BICYCLE OUTSIDE AT NIGHT.

CLASSROOM TESTING AND QUIZ MATERIALS

TESTING OF KNOWLEDGE OF BICYCLE SAFETY IS AN INTEGRAL PART OF ANY BICYCLE SAFETY PROGRAM. IT BECOMES MORE IMPORTANT WHEN WE UNDERSTAND THAT THIS KNOWLEDGE MUST BE TRANSLATED INTO ATTITUDES AND HABITS WHICH THE STUDENT WILL DISPLAY. KNOWING WHAT IS RIGHT OR WRONG WILL BE OF LITTLE VALUE TO AN INDIVIDUAL WHO CANNOT TRANSLATE THIS KNOWLEDGE INTO ACTIONS. TESTING IN THIS AREA MUST BE RELATED TO REAL LIFE SITUATIONS. IN THIS WAY WE CAN REINFORCE MATERIAL WHICH IS TAUGHT AND HAVE THE STUDENTS SELECTING ANSWERS BASED ON SITUATIONS THEY MIGHT FACE. SUCCESS IN ANSWERING THE PROBLEMS CAN DEVELOP THE PROPER COURSE OF ACTION INTO A PATTERN OF BEHAVIOR THE CHILD WILL FOLLOW IN A REAL LIFE SITUATION.

THERE ARE MANY ORGANIZATIONS WHICH HAVE DEVELOPED BICYCLE SAFETY TESTING MATERIALS. AMONG THESE ARE THE NEW YORK STATE EDUCATION DEPARTMENT'S MANUAL ON BICYCLE SAFETY TESTS, AUTOMOBILE ASSOCIATION OF AMERICA, THE BICYCLE MANUFACTURERS ASSOCIATION OF AMERICA AND VARIOUS INSURANCE COMPANIES AND BOOK PUBLISHERS. YOU ARE FREE TO USE THEIR MATERIALS OR TO DEVELOP YOUR OWN. WHICHEVER PATH YOU SELECT, YOU MUST EVALUATE THE MATERIALS YOU WILL BE USING IN YOUR PROGRAM. THIS EVALUATION WILL ALLOW YOU TO SEE IF THE MATERIALS YOU HAVE CHOSEN MEET CERTAIN CRITERIA. THE MATERIALS MUST BE VALID AND RELIABLE, CURRENT, RELATED TO YOUR LOCAL SITUATION; THEY MUST BE RELATED TO REAL LIFE SITUATIONS, AND MUST INCLUDE PROBLEM SOLVING FOR THE STUDENTS. THE MATERIALS YOU SELECT MUST ALSO COVER CERTAIN AREAS AMONG WHICH ARE THE SELECTION OF A SAFE AND PROPERLY FITTING BICYCLE, TRAFFIC LAWS AND THE PLACE OF THE BICYCLE IN TRAFFIC, SAFE RIDING PRACTICES, NIGHTTIME RIDING TECHNIQUES, AND THE CARE, MAINTENANCE, AND SECURITY OF THE BICYCLE.

KNOW YOUR BICYCLE NAME THE PARTS



A _____

B _____

C _____

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PRACTICAL FIELD TESTING

In addition to knowledge tests, Bicycle Safety programs should also include practical tests. In order to include these tests in our program, we must recognize several inherent problems. The two major problems will be the availability of bicycles and the availability of a suitable area in which to conduct your tests.

A careful survey of your school and its neighborhood should provide you with space you can use in your schoolyard, a nearby quiet street or a park. The availability of bicycles can be learned by a survey of your class. It may also be possible to get bicycles from a local merchant, through civic or parent associations or from other schools. The assistance of local groups including the local police precinct will enhance any bicycle safety program.

In developing a set of practical tests it is important that we include all basic skills. Among the skills which should be included in any such testing program are:

1. Mounting and balance
2. Slow speed riding and control
3. Straight line control
4. Stopping and stop and go maneuvers
5. Signaling
6. Maneuvering and changes of balance
7. Obstacle and reaction testing

Many of the organizations and groups named above have developed practical tests for bicycle safety.

BICYCLE TESTS

Balance-

Mount bicycle at starting point and coast for 20 feet. Then proceed along rest of course at slow speed without touching lines. In this test the cyclist is allowed no more than 2 revolutions of the pedals.

Straight Line Control-

Mount bicycle and ride along course between obstacles. Rider must not stop bicycle or hit obstacles. Obstacles are placed at ten foot intervals along course. The obstacles allow an eight inch space between them.

Maneuvering-

Mount bicycle and ride along course passing alternately to left and right of obstacles. The obstacles are placed every 8 to 10 feet along last 40 feet of the course. The rider must not stop bicycle or touch the obstacles. This test can be extended by having the rider turn around and complete the course in the opposite direction coming to a full stop at the starting line.

Turning And Circling-

Rider must enter Figure Eight course and complete two revolutions of the course without stopping or going out of the lines. The course consists of two pairs of concentric circles. The inner circle of 12 foot diameter and the outer circle 15 feet in diameter. The centers of the larger circles 15 feet apart.

This course can also be used to test ability to turn a circle. Have the rider enter the course and continue around one circle either to the right or to the left.

Signaling, Turning and Stopping-

This exercise tests the rider in street-like situations. The

RIDER MUST ENTER THE COURSE AT NORMAL SPEED. THE RIDER MUST SIGNAL EACH TURN AND MUST COME TO A FULL STOP AT THE END OF THE COURSE.

VARIETY CAN BE ADDED TO THIS COURSE BY SETTING UP A TRAFFIC LIGHT SYSTEM AT THE TURNS IN THE COURSE. THESE MAY BE HANDLED BY STUDENT MONITORS EQUIPPED WITH A SET OF SIGNS OR LIGHT PICTURES WHICH THEY CAN DISPLAY TO THE RIDER.

THE RIDER MUST COMPLETE THE COURSE GIVING ALL SIGNALS WELL IN ADVANCE OF HER/HIS ACTION AND DEMONSTRATING CONTROL THROUGH THE TURNS. THE RIDER MUST COME TO A FULL STOP AT THE END OF THE COURSE.

AWARDS-

A CERTIFICATE SUCH AS A DRIVING LICENSE CAN BE AWARDED TO EACH STUDENT WHO SUCCESSFULLY COMPLETES ALL OF THE TESTS. AT THE SAME TIME AN AWARD SIMILAR TO A VEHICLE REGISTRATION CAN BE PRESENTED TO EACH STUDENT WHO HAS HAD HIS OF HER BICYCLE INSPECTED AND APPROVED AS SAFE BY THE LOCAL POLICE DEPARTMENT OR OTHER INSPECTING TEAM.

LAYOUT FOR PRACTICAL TESTS

Figure 1

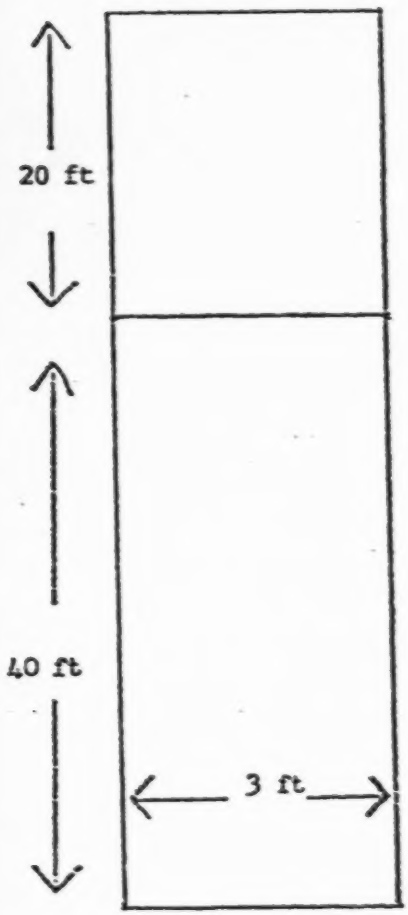

Figure 2

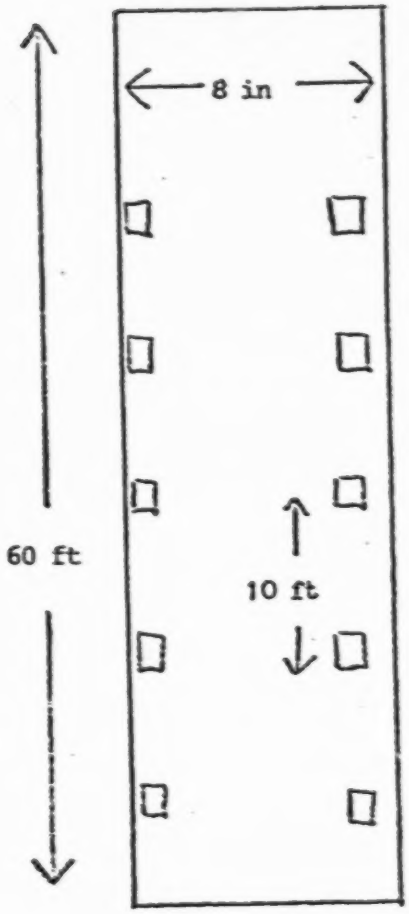

Figure 3

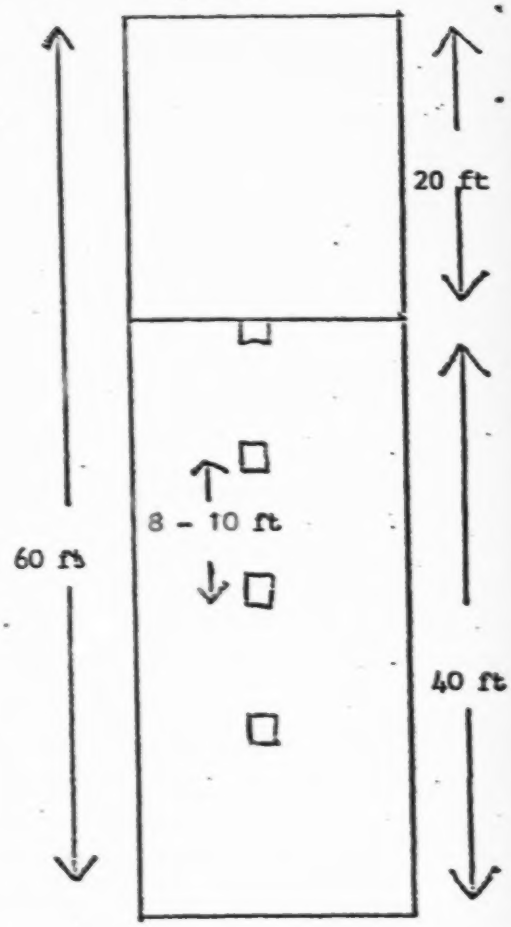

Figure Four

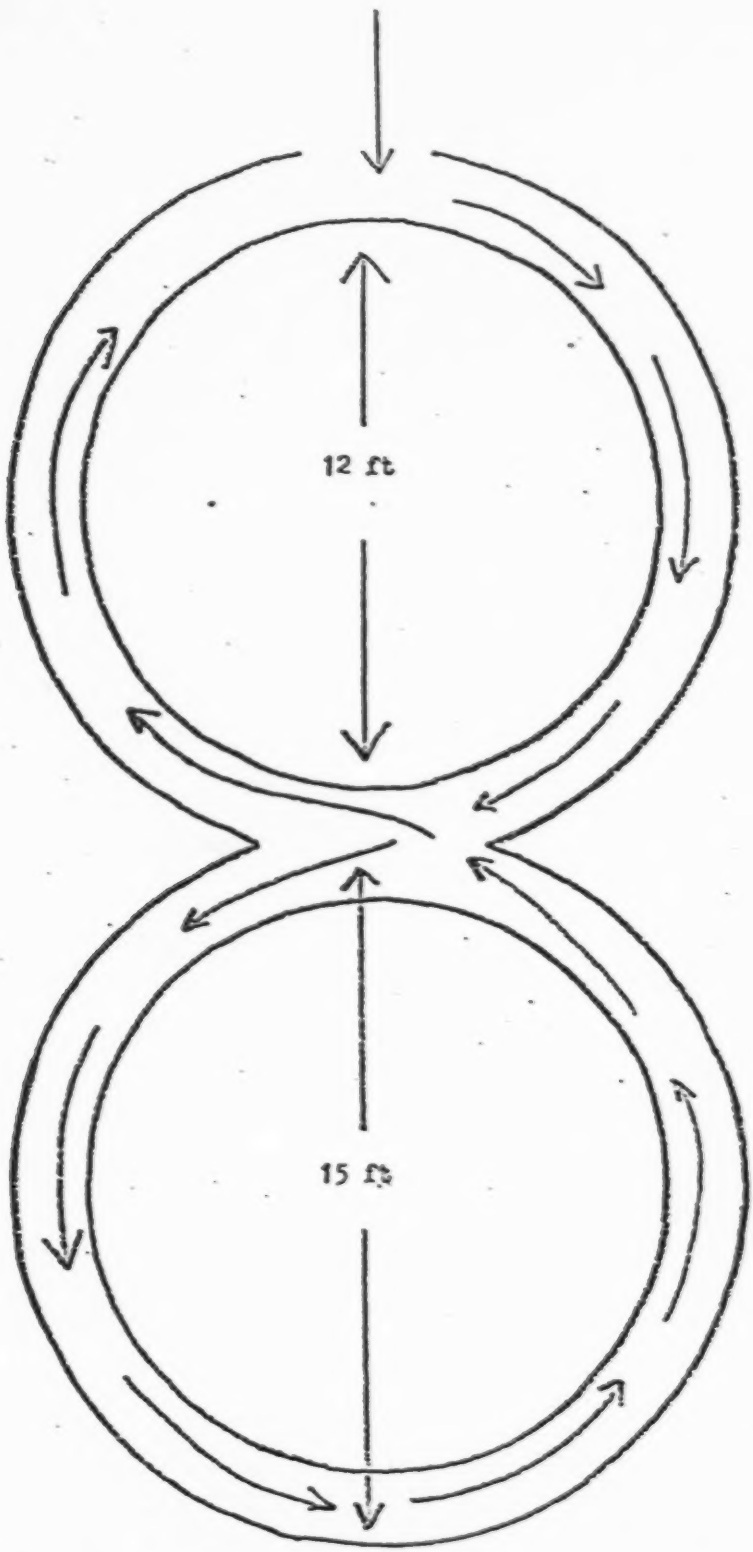

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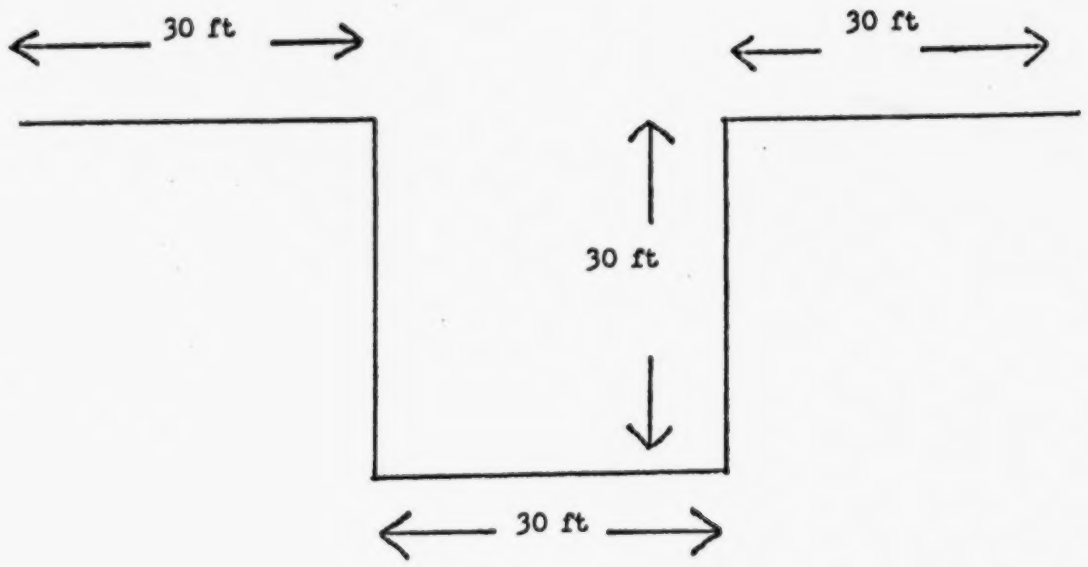
Figure Five



BICYCLE GAMES AND CONTESTS

THE TEACHER MUST SELECT AN AREA WHICH IS SMOOTH AND FREE FROM TRAFFIC. ALL STUDENTS MUST HAVE BICYCLES WHICH ARE SAFE AND IN GOOD CONDITION. ALL STUDENTS MUST KNOW ALL THE RULES OF THE GAMES.

GAMES:

1. HIT THE JACKPOT-

   A. PUT SIX (6) COFFEE CANS OR BOWLS 15 FEET APART IN A STRAIGHT LINE.

   B. GIVE EACH PLAYER A SUPPLY OF BOTTLE CAPS.

   C. WHILE DRIVING ALONGSIDE THE CANS, PLAYERS TRY TO TOSS A BOTTLE CAP INTO EACH "JACKPOT". NO STOPPING OR GOING BACK. FIRST PLAYER TO GET A CAP IN EACH CAN WINS. USE STOP WATCH AND MAKE TIME A FACTOR.

2. PICK AND PLACE-

   A. WITH CHALK, MARK LARGE CIRCLES (FOR GOALS) AT EACH END OF PLAY AREA. ONE PAIR OF GOALS PER PLAYER.

   B. INSIDE EACH GOAL AT ONE END, PLACE SIX SMALL STONES OR OBJECTS.

   C. PLAYERS START AT THE SAME TIME. EACH PERSON PICKS UP A STONE, THEN MOUNTS BICYCLE, DRIVES TO THE OTHER END OF THE PLAY AREA, DISMOUNTS, PLACES THE STONE INSIDE THE EMPTY GOAL. THE FIRST PERSON TO PLACE ALL HER/HIS STONES INSIDE EMPTY GOAL WINS.

3. SNAIL RACE-

   A. LAY OUT A COURSE 15 FEET LONG. MAKE SEVERAL 4 FOOT WIDE LINES WITH CHALK OR STRING.

   B. EACH PLAYER MUST STAY WITHIN HER/HIS LANE. THE PLAYERS' FEET MAY NOT TOUCH THE GROUND.

C. THE LAST PERSON TO REACH THE GOAL LINE IS THE WINNER.

MYSTERY RIDE-

A. HAVE A PARENT, TEACHER OR BIKE CLUB SPONSOR PLAN A DRIVE WITH 10 OR MORE NUMBERED CLUES HIDDEN ALONG THE WAY.

B. AT EACH "MYSTERY STOP", THERE'S A CLUE DIRECTING PLAYERS TO NEXT STOP.

C. FIRST PERSON OR TEAM TO FOLLOW ALL CLUES IN ORDER AND GETS TO FINISH LINE WINS.

SOURCES OF INFORMATION AND MATERIALS

1. The State Education Department, Division of General Education, Albany, New York 12224

2. New York State Department of Motor Vehicles, Albany, New York 12224

3. National Highway and Traffic Safety Administration, Washington, D.C. 20590

4. American Automobile Association, 8111 Gatehouse Road, Falls Church, Virginia 22042

5. National Safety Council, 425 North Michigan Avenue, Chicago, Illinois 60611

6. National Education Association, National Safety Commission, 1201 16th Street N.W. Washington, D.C. 20036

7. New York University, Center for Safety Education, 20 Washington Square N, New York, NY 10011

8. Cornell University, Cooperative Extension, 381 Park Avenue South, New York, NY 10016

9. American Association for Health, Physical Education and Recreation, same as #6

10. National Conservation Bureau, 60 John Street, New York, NY 10038

11. Goodyear Tire and Rubber Co., Akron, Ohio 44316

12. Socony Oil and Gas Co., 150 E. 42nd Street, New York, NY 10017

13. Boy Scouts of America, 2 Park Avenue, New York, NY 10016

14. Aetna Casualty and Surety Co., Public Education Department, 151 Farmington Avenue, Hartford, Connecticut 06115

SOURCES OF INFORMATION AND MATERIALS

15. All- State Insurance Co., Skokie, Illinois 60076

16. Association of Casualty and Surety Cos., 60 John Street, New York, NY 10038

17. Employers Mutual Insurance Co., Warsau, Wisconsin 54401

18. Lumberman's Mutual Casualty Co., Mutual Insurance Building, Chicago, Illinois 60607

19. Optimists International, Tom Walters, Youth Activities Director, 4494 Lindell Blvd., St. Louis, Missouri 63108

20. Bicycle Manufacturers Association of America, 1101 15 Street N.W., Washington, D.C. 20005

21. Schwinn Bicycle Co., 1856 Koster Avenue, Chicago, Illinois 60639

22. Amateur Bicycle League of America, c/o Toefield, 87-66 256th Street, Floral Park, NY 11414

23. League of American Wheelman, 5118 Foster Avenue, Chicago, Illinois 60630

24. International Bicycle Touring Society, c/o Dr. Clifford Graves, 846 Prospect Avenue, La Jolla, California 92037

25. American Hostels, Inc., 132 Spring Street, New York, NY 10012